

CLAIMS

1 1. A diversity receiving apparatus that separately
2 weights reception signals of a plurality of reception
3 systems using combining coefficients based on a
4 respective amplitude component of each reception signal,
5 combines the weighted reception signals, extracts symbol
6 sections in the combined reception signals, and generates
7 a clock for detecting symbols,

the diversity receiving apparatus comprising:

judging means for judging whether every combining coefficient is below a predetermined threshold;

multiplied means for uniformly multiplying every combining coefficient when the judging means judges that every combining coefficient is below the predetermined threshold; and

combining means for combining the reception signals using the multiplied combining coefficients

1 2. The diversity receiving apparatus of Claim 1,
2 wherein the combining coefficients are one of an
3 received signal strength for each reception system and a
4 parameter showing a reliability of the reception signal
5 obtained by each reception system.

1 3. The diversity receiving apparatus of Claim 2,

2 wherein the multiplying means multiplies every
3 combining coefficient by a constant when the judging
4 means judges that every combining coefficient is below
5 the predetermined threshold.

1 4. The diversity receiving apparatus of Claim 3,
2 wherein the constant is related to a result of
3 dividing a maximum value for the combining coefficients
4 by the threshold.

1 5. The diversity receiving apparatus of Claim 4,
2 wherein each combining coefficient is expressed
3 using a predetermined number of bits,
4 the constant being 2^n and the predetermined
5 threshold being found by dividing a maximum value that
6 can be expressed using the predetermined number of bits
7 by 2^n , where $1 \leq n <$ the predetermined number of bits.

1 6. A diversity receiving apparatus that separately
2 weights reception signals of a plurality of reception
3 systems using combining coefficients based on a
4 respective amplitude component of each reception signal,
5 combines the weighted reception signals, extracts symbol
6 sections in the combined reception signals, and generates
7 a clock for detecting symbols,
8 the diversity receiving apparatus comprising:

9 judging means for judging whether every combining
10 coefficient is below a predetermined threshold;

11 multiplying means for uniformly multiplying every
12 combining coefficient when the judging means judges that
13 every combining coefficient is below the predetermined
14 threshold;

15 combining means for combining the reception
16 signals using the multiplied combining coefficients; and

17 generating means for generating a clock that is
18 synchronized with the reception signals of the reception
19 systems using the reception signals combined by the
20 combining means.

1 7. The diversity receiving apparatus of Claim 6,

2 wherein the combining coefficients are one of an
3 received signal strength for each reception system and a
4 parameter showing a reliability of the reception signal
5 obtained by each reception system.

1 8. The diversity receiving apparatus of Claim 7,

2 wherein the multiplying means multiplies every
3 combining coefficient by a constant when the judging
4 means judges that every combining coefficient is below
5 the predetermined threshold.

1 9. The diversity receiving apparatus of Claim 8,

2 wherein the constant is related to a result of
3 dividing a maximum value for the combining coefficients
4 by the threshold.

1 10. The diversity receiving apparatus of Claim 9,
2 wherein each combining coefficient is expressed
3 using a predetermined number of bits,
4 the constant being 2^n and the predetermined
5 threshold being found by dividing a maximum value that
6 can be expressed using the predetermined number of bits
7 by 2^n , where $1 \leq n <$ the predetermined number of bits.

1 11. A diversity receiving apparatus that separately
2 weights reception signals of a plurality of reception
3 systems using combining coefficients based on a
4 respective amplitude component of each reception signal,
5 combines the weighted reception signals, and generates a
6 clock for detecting symbols based on the combined
7 reception signals,

8 the diversity receiving apparatus comprising:
9 judging means for judging whether every combining
10 coefficient is below a predetermined threshold;
11 multiplying means for doubling every combining
12 coefficient when the judging means judges that every
13 combining coefficient is below the predetermined
14 threshold;

15 control means for repeatedly activating the
16 judging means and multiplying means until the judging
17 means judges that at least one of the combining
18 coefficients is no longer below the predetermined
19 threshold;

20 combining means for combining the reception
21 signals using the multiplied combining coefficients when
22 the judging means judges that at least one of the
23 combining coefficients is no longer below the
24 predetermined threshold; and

25 generating means for generating a clock that is
26 synchronized with the reception signals of the plurality
27 of reception systems using the reception signals combined
28 by the combining means.

12. The diversity receiving apparatus of Claim 11,
wherein the combining coefficients are one of an
received signal strength for each reception system and a
parameter showing a reliability of the reception signal
obtained by each reception system.

~~13. A clock generating circuit for use by a diversity~~
~~receiving apparatus that separately weights reception~~
~~signals of a plurality of reception systems using~~
~~combining coefficients based on a respective amplitude~~
~~component of each reception signal and combines the~~

6 weighted reception signals,
7 the clock generating circuit comprising:
8 judging means for judging whether every combining
9 coefficient is below a predetermined threshold;
10 multiplying means for multiplying every combining
11 coefficient when the judging means judges that every
12 combining coefficient is below the predetermined
13 threshold;
14 combining means for combining the reception
15 signals using the multiplied combining coefficients; and
16 generating means for generating a clock that is
17 synchronized with the reception signals of the plurality
18 of reception systems using the reception signals combined
19 by the combining means.